

### **REMARKS**

This Amendment amends pending Claims 12-15, adds new claims 16-23, and includes an amended Abstract of the Disclosure.

The Abstract of the Disclosure stands objected to for improper format. Applicants have amended the Abstract of the Disclosure and reconsideration of the Examiner's objection is respectfully requested.

Claims 13-15 stand rejected under 35 U.S.C. §112, second paragraph, for indefiniteness. Applicants have addressed the Examiner's indefiniteness rejections in the foregoing amendments. Reconsideration of the Examiner's indefiniteness rejections is respectfully requested.

Claims 12-14 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,911,967 to Lazzari. Claims 12-14 further stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,673,602 to Nakayama et al. ("Nakayama"). Additionally, claims 12 and 13 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 3,607,528 to Gassaway. Claim 15 stands rejected under 35 U.S.C. §103(a) for obviousness over Lazzari. Claim 15 further stands rejected under 35 U.S.C. §103(a) for obviousness over Nakayama or Gassaway. Finally, claim 14 stands rejected under 35 U.S. §103(a) for obviousness over Gassaway in view of Nakayama. In view of the above amendments and following remarks, Applicants respectfully request reconsideration of the Examiner's rejections.

Independent claim 12 is directed to a method of manufacturing a hard disc that includes the steps of providing a disc-shaped substrate, applying a polymer layer to the substrate, and compression molding the polymer coated substrate, thereby fixing the polymer layer to the substrate. Only those steps are required, and the preamble of claim 1 is amended to use the transitional phrase "consisting essentially of". The claimed invention is limited to those steps and any others which do not materially affect the basic and novel characteristics of the method. The disc-shaped substrate has a first side and a second side. The substrate is sized and configured for use as a computer hard drive. The polymer layer consists of an optical quality polymer applied directly to at least one of the sides of the substrate to produce the polymer-coated substrate. Support for the amendments to independent claim 12 is found in the original disclosure. No new matter was added.

Lazzari, as shown in Fig. 3, discloses a magnetic disc comprised of an aluminum wafer (10) and two plastic sheets (39, 41) pressed against the wafer (10). Magnetic films (45, 46) are applied to the plastic sheets (39, 41) and form the recording surface of the magnetic disc. The magnetic films (45, 46) are separate from contact with the aluminum wafer (10), which avoids ionic contamination. Preventing ionic contamination is identified as the main objective sought to be accomplished by the magnetic disc disclosed by Lazzari.

Nakayama discloses a method of making a composite substrate plate for magnetic or optical disk applications. Nakayama discloses a substrate plate made of metal (1) having an undercoat resin layer (2) applied onto the surface of the metal plate (1). A second surface resin layer (3) is formed on the undercoat resin layer (2). As shown in Fig. 5 of Nakayama, the undercoat resin layer (2) and the surface resin layer (3) may be applied to both sides of the metal plate (1). The surface resin layer (3) is cured under application of pressure.

Gassaway also discloses a magnetic disc generally comprised of a substrate and two or more coatings applied to the substrate. Referring to the figures of Gassaway, a substrate (10) is in the form of a flat (stainless steel) plate having a surface (11) finished to a flatness and smoothness required of a magnetic coating (15) which is to form the recording surface of the magnetic disc. In each of the figures of Gassaway, a release agent (12) is shown applied to the substrate (10). The release or parting agent (12) maintains the optical smoothness of the surface (11) of the substrate (10). After the parting agent (12) is applied to the substrate (10), an additional mask layer (14) is applied to the parting agent (12). The mask layer (14) may be paper held in place with a pressure sensitive adhesive, a metal plate held in place during the subsequent coating operation, or small spot masks placed at intervals around the circumference of the parting agent (12). Once the mask layer (14) is applied to the parting agent (12), a magnetic coating (15) is applied to the parting agent (12) and forms the recording surface of the magnetic disc. A "sandwich" structure of the disclosed magnetic disc is shown in Fig. 9 of Gassaway.

Applicants respectfully submit that amended independent claim 12 is not anticipated by Lazzari, Nakayama, or Gassaway, nor are the limitations of amended independent claim 12 obvious over the teachings of these references, whether considered

individually or in combination. Amended independent claim 12 now specifically requires a method step of applying a polymer layer consisting of an optical quality polymer directly to at least one of the sides of a substrate to produce a polymer coated substrate. Accordingly, amended independent claim 12 specifically requires a single optical quality polymer applied directly to at least one side of the substrate. The cited references fail to teach or suggest this limitation.

As stated, Lazzari requires two plastic sheets (39, 41) applied to an aluminum wafer (10), and a subsequent pair of magnetic film layers (45, 46) applied to the pressed plastic sheets (39, 41). Accordingly, Lazzari requires applying at least two layers to an aluminum substrate, whereas amended independent claim 12 requires applying a single layer. Since only a single layer is applied in the method of manufacturing a hard disc set forth in amended independent claim 12, the method of amended independent claim 12 results in a simplified hard disc structure that is more economical to produce. The optical quality polymer layer is applied directly to the sides of the substrate, and does not include a step of applying an intermediate layer between the recording surface and the substrate as disclosed by Lazzari.

Nakayama discloses a similar method to Lazzari. Nakayama includes steps of applying an undercoat resin layer (2) onto a metal plate (1) and applying a second resin layer (3) (arecording layer) onto the undercoat layer (2). There is no teaching to apply the recording layer (3) directly onto the substrate (1). The resulting magnetic or optical disk structure disclosed by Nakayama is essentially the same as that disclosed by Lazzari.

Gassaway describes producing a magnetic disc by depositing multiple layers on a metal substrate. In particular, Gassaway discloses applying a parting agent (12) to a substrate (10) and applying a magnetic coating (15) onto the parting agent (12). Amended independent claim 12 specifically distinguishes over a method of producing a multi-layered structure and improves on the two layer structure disclosed by Gassaway by requiring only a single layer of optical quality polymer.

Furthermore, none of the references cited by the Examiner teach or suggest applying an optical quality polymer layer as the recording layer of a magnetic or non-magnetic hard disc, directly onto a substrate without need for an intermediate layer as set forth in amended independent claim 12. Applicants respectfully submit that amended

independent claim 12 distinguishes over Lazzari, Nakayama, and Gassaway for all the foregoing reasons, whether these references are considered individually or in combination. Reconsideration of the Examiner's rejection of independent claim 12 over Lazzari, Nakayama, and Gassaway is respectfully requested. Claims 13-15 depend directly from amended independent claim 12 and are deemed to distinguish over the cited prior art for all the reasons discussed hereinabove.

This amendment includes new claims 16-23 which are generally similar to cancelled claims 3-7, and 9-11, respectively. New claims 16-23 are deemed to distinguish over the cited references for all of the reasons discussed previously.

Reconsideration of all the Examiner's objections and rejections, and allowance of pending claims 12-23 are respectfully requested.

Respectfully submitted,

ALCOA, INC

By



Christian E. Schuster  
Registration No. 43,908  
Attorney for Applicants  
700 Koppers Building  
436 Seventh Avenue  
Pittsburgh, Pennsylvania 15219-1818  
Telephone: 412-471-8815  
Facsimile: 412-471-4094